CATTLE COUNCIL OF AUSTRALIA

Grazing Beef Industry Surveillance Project

animalhealth AUSTRALIA

CYSTICERCUS BOVIS (BEEF MEASLES)

KEY MESSAGES

***C. bovis* is a parasitic condition of cattle with worldwide distribution.**

***C. bovis* causes small cysts in the muscles of cattle which can require carcase downgrading or condemnation at meat inspection.**

***C. bovis* in carcases risks damaging Australia's reputation as an exporter of high-quality beef.**

WHAT IS *CYSTICERCUS BOVIS*?

Cysticercus bovis (*C. bovis*, formerly known as beef measles) is the larval form of a parasitic tapeworm found in humans worldwide.

Eggs of the human tapeworm *Taenia saginata* are passed in human faeces and if ingested by cattle, develop into larvae which form small cysts (5-9mm) in the muscles of cattle (e.g. heart and cheek muscles).

Humans are infected by ingesting beef containing viable tapeworm cysts, i.e. in raw or undercooked beef, particularly in some overseas countries. When people eat live cysts, the larvae develop into a tapeworm in the small intestine and can cause serious disease.

DISEASE ON-FARM

Cattle become infected with *C. bovis* by grazing on pasture or consuming feed concentrates that are contaminated with infested human faeces.

Pasture can become contaminated from:

- overflowing domestic sewage systems
- irrigation with inadequately treated recycled water
- transfer of tapeworm eggs to cattle pasture by water bird movements from nearby sewage treatment works.

Cattle with *C. bovis* are unlikely to show clinical signs. Diagnosis relies on detection of cysts in the muscles of cattle at meat inspection.

The sensitivity of post-mortem meat inspection for *C. bovis* is low, so in many instances, farmers may be unaware that their cattle are infested. As a result, *C. bovis* can persist on a farm and our knowledge of *C. bovis* distribution in beef cattle in Australia is limited.

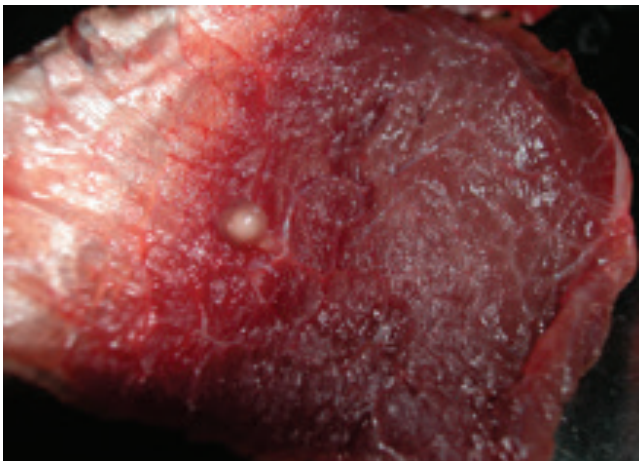

Figure 1: C. bovis cyst in the muscle. Credit Peter Deplazes.

DISEASE PICTURE AT THE ABATTOIR

Post-mortem meat inspection for *C. bovis* cysts includes incision of muscles at predilection sites (e.g. heart and cheek muscles).

C. bovis is notifiable nationally, which means that suspicion of the infestation must be reported to agricultural authorities. An investigation of the affected property may occur to determine the source of contamination and the affected property is given a *C. bovis* status in the National Livestock Identification System (NLIS). The status notifies abattoirs processing beef from affected properties in future of the increased risk of *C. bovis*, so a more thorough meat inspection process can be conducted.

PREVENTION

To prevent *C. bovis* in cattle, ensure there is no human faecal contamination of pasture or adjacent land (tapeworm segments are motile), or other cattle foodstuffs, and ensure recycled water used for irrigation is adequately treated.

Adequately cooking (at least 57 degrees C) or freezing beef (for 10 days at -10 degrees C) for human consumption will kill the cysts and prevent human infection.

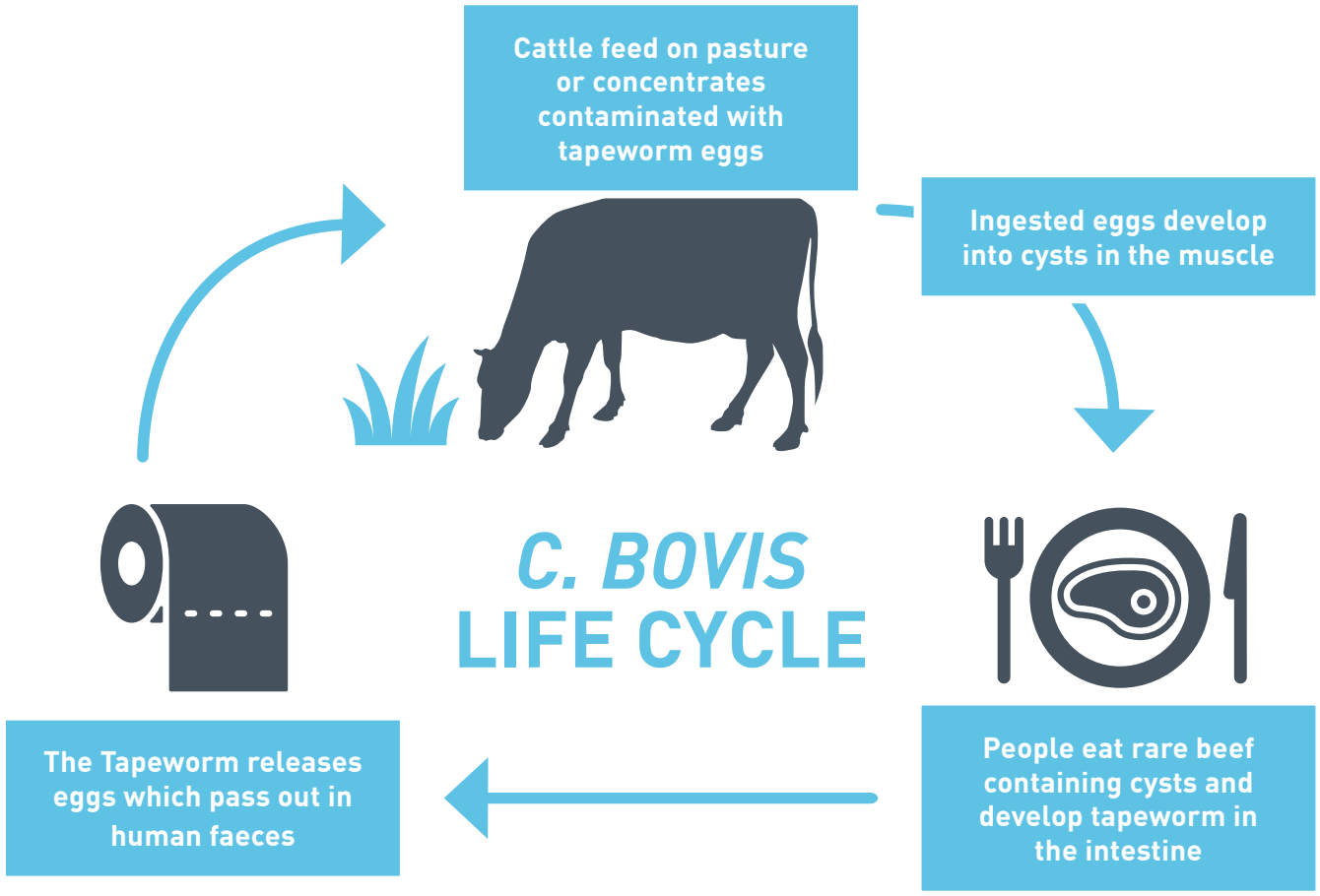

Figure 2 *C. bovis* life cycle

Acknowledgements

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